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Machining & Manufacturing Technology

Degree Pathway

An Associates of Applied Science Degree emphasizes preparation in the applied arts and sciences for careers, typically at the technical or semi-professional level. This degree totals 63 credits. Consult with an advisor for more information.

( ) are Systemwide Transfer Courses

(★) are recommended for this degree pathway.

Required Courses			
Course ID	**Course Title**	**Credit Hours**	**Notes**
MC104	Machine Technology Math	2.00	Fall 2026, Spring 2027
MC110	Bench Work	1.00	Fall 2026
MC111	Print Reading	3.00	Fall 2026, Spring 2027
MC112	Quality Control and Inspection	1.00	Fall 2026, Spring 2027
MC113	Metallurgy	1.00	Spring 2027 Prereq: MC110 BenchWork with a Grade of C or higher, and MC115 Machining I with a Grade of C or higher.
MC114	Machine Tool Processes	1.00	Spring 2027
MC115	Machining I	3.00	Fall 2026
MC116	Machining II	3.00	Fall 2026, Spring 2027 Prereq: MC110 BenchWork with a Grade of C or higher, and MC115 Machining I with a Grade of C or higher.
MC117	CNC Operations	3.00	Fall 2026 Prereq: MC115 Machining I with a Grade of C or higher, or Departmental Consent.
MC204	Machine Practices I	3.00	Fall 2026 Prereq: Departmental Consent.
MC205	Machine Practices II	3.00	Spring 2027 Prereq: Departmental Consent, or MC204 Machine Practices I w/Grade of C or higher.
MC206	CNC Operations-Advanced	3.00	Spring 2027 Prereq: MC117 CNC Operations.
TR120	Work Ethics	2.00	Fall 2026, Spring 2027
TR121	General Industrial Safety/OSHA10	1.00	Fall 2026

Electives			
Course ID	**Course Title**	**Credit Hours**	**Notes**
General Education Options		**6.00**	
AR101	Art Appreciation	3.00	Fall 2026, Spring 2027, Summer 2027
AR104	Art History: Paleolithic to Medieval	3.00	Fall 2026
AR105	Art History: Renaissance to Modern	3.00	Spring 2027
AR106	Art in the Elementary Classroom	3.00	Fall 2026, Spring 2027
AR110	Drawing I	3.00	Fall 2026
BI100	Basic Concepts for Allied Health Studies	1.00	Fall 2026, Spring 2027, Summer 2027
BI101	General Biology	4.00	Fall 2026, Spring 2027, Summer 2027
BI102	Ecology of Environmental Problems	3.00	Spring 2027

BI103	Human Anatomy and Physiology	6.00	Fall 2026, Spring 2027, Summer 2027 Prereq: BI100 or BI101 or BI104 or BI105 or BI112 w/Grade of C.
BI104	Biology I	5.00	Fall 2026, Spring 2027
BI105	Biology II	5.00	Spring 2027 Prereq: BI101 General Biology, or Departmental Consent, or BI104 Biology I.
BI112	General Microbiology	4.00	Fall 2026, Spring 2027, Summer 2027 Prereq: (BI101,BI103,BI104,BI105)BI107 is not a valid prereq code.
BI115	Basic Radiation Biology	2.00	Spring 2027 Prereq: BI103 Human A&P.
BU105	Introduction to Business	3.00	Fall 2026, Spring 2027, Summer 2027
BU107	Personal Finance	3.00	Fall 2026, Spring 2027, Summer 2027
BU108	Business Mathematics	3.00	Fall 2026, Spring 2027, Summer 2027
BU109	Business Communications	3.00	Fall 2026, Spring 2027, Summer 2027
BU118	Introduction to Leadership	3.00	Fall 2026, Spring 2027
CH101	General Chemistry	5.00	Fall 2026, Spring 2027, Summer 2027 Prereq: MA106 College Algebra, or MA117 Contemporary Math, or MA108 Elements of Statistics.
CH105	Chemistry I	5.00	Fall 2026, Spring 2027 Prereq: ACT Math Score of 21 or higher, or MA105 or higher math, or Accuplacer NextGen QuantReason, Alg,Stats Score 263 or Above, or Accuplacer Math Score of 81+.
CH106	Chemistry II	5.00	Spring 2027 Prereq: CH105 Chemistry I with a C or Higher.
CH108	Principles of Organic and Biochemistry	5.00	Fall 2026 Prereq: CH105 Chemistry I, or Departmental Consent.
CH201	Organic Chemistry I	5.00	Fall 2026 Prereq: CH106 Chemistry II.
CH202	Organic Chemistry II	5.00	Spring 2027 Prereq: CH201 Organic Chemistry I.
EC100	Macroeconomics	3.00	Fall 2026, Spring 2027, Summer 2027
EC101	Microeconomics	3.00	Fall 2026, Spring 2027, Summer 2027
ED105	Success Seminar/College Orientation	1.00	Fall 2026, Spring 2027, Summer 2027
ED201	Introduction to Education	3.00	Fall 2026, Spring 2027 Prereq: a GPA of 2.5 or higher, and PS100 General Psychology.
ED201L	Introduction to Education Practicum	1.00	Fall 2026, Spring 2027 Prereq: a GPA of 2.5 or higher, and PS100 General Psychology.
EN101	English Composition IA	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: HS GPA over 3.0, or Accu NG Writing Score 255+ & Accu NG Reading Score 255+, and ACT Reading Score of 18 or above, or ACT English Score of 18 or above.
EN102	English Composition II	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: EN101 English Composition IA with a grade of C or higher, or EN101H English Comp IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.
EN107	Business English Grammar & Composition	3.00	Fall 2026, Spring 2027
EN108	Career and Technical Writing	3.00	Fall 2026, Spring 2027
EN120	Children's Literature	3.00	Fall 2026, Spring 2027
EN121	World Mythology	3.00	Spring 2027 Prereq: EN101 English Composition IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.
EN128	Introduction to Creative Writing	3.00	Fall 2026, Spring 2027
EN201	Introduction to Literature	3.00	Fall 2026, Summer 2027 Prereq: EN100 English Comp IB with a grade of C or higher, or EN101 English Composition IA with a grade of C or higher.
EN202	British Literature I	3.00	Prereq: EN101 English Composition IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.
EN203	British Literature II	3.00	Spring 2027 Prereq: EN101 English Composition IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.
EN204	American Literature I	3.00	Fall 2026 Prereq: EN101 English Composition IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.

EN205	American Literature II	3.00	Spring 2027 Prereq: EN101 English Composition IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.
EN207	Introduction to Shakespeare	3.00	Prereq: EN101 English Composition IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.
EN214	Introduction to Cultural Studies: Fairy Tales	3.00	Fall 2026, Spring 2027 Prereq: EN101 English Composition IA with a grade of C or higher, or EN100 English Comp IB with a grade of C or higher.
FR101	Elementary French I	5.00	Spring 2027
GE101	World Geography	3.00	Fall 2026, Spring 2027, Summer 2027
GO100	American Government	3.00	Fall 2026, Spring 2027, Summer 2027
GO101	State and Local Government	3.00	
GO102	International Relations	3.00	Spring 2027
GO110	Introduction to Political Science	3.00	Fall 2026
GO110H	Honors Introduction to Political Science	3.00	Fall 2026
HI101	American History 1492-1865	3.00	Fall 2026, Spring 2027, Summer 2027
HI102	American History 1865-Present	3.00	Fall 2026, Spring 2027, Summer 2027
HI103	World History to 1600	3.00	Fall 2026, Spring 2027, Summer 2027
HI104	World History Since 1600	3.00	Fall 2026, Spring 2027, Summer 2027
HI122	Film History of World War II	3.00	
HI201	Topics in History	3.00	Spring 2027
IS103	Microcomputer Literacy	2.00	
IS104	Microcomputer Applications	3.00	Fall 2026, Spring 2027, Summer 2027
JL101	Introduction to Mass Communications	3.00	Fall 2026, Spring 2027, Summer 2027
LE101	Introduction to Criminal Justice	3.00	Fall 2026, Spring 2027
MA106	College Algebra	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: HS GPA over 3.25, or Accuplacer NextGen QuantReason, Alg,Stats Score 263 or Above, or ACT Math Score of 22 or Higher.
MA107	Plane Trigonometry	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: MA106 College Algebra with a grade of C or higher, or ACT Math Score of 23 to 36.
MA108	Elements of Statistics	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: HS GPA over 3.0, or Accuplacer NG QuantReason, Alg, Stats Score 255 or Above, or ACT Math Score of 19 or Higher.
MA110	Calculus	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: MA106 College Algebra with a grade of C or higher, or ACT Math Score of 23 to 36, or MA109 Pre-Calculus Math with a grade of C or higher.
MA111	Analytical Geometry and Calculus I	5.00	Fall 2026, Spring 2027, Summer 2027 Prereq: MA107 Plane Trigonometry with a grade of C or higher, or ACT Math Score of 25 to 36, or MA109 Pre-Calculus Math with a grade of C or higher.
MA113	Analytical Geometry and Calculus II	5.00	Fall 2026, Spring 2027, Summer 2027 Prereq: MA111 with a grade of C or higher.
MA117	Contemporary Math	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: HS GPA over 3.0, or Accuplacer NG QuantReason, Alg, Stats Score 255 or Above, or ACT Math Score of 19 or Higher.
MA201	Analytical Geometry and Calculus III	5.00	Fall 2026, Summer 2027 Prereq: MA113 with a grade of C or higher.
MA206	Differential Equations	3.00	Spring 2027 Prereq: MA113 with a grade of C or higher.
MU101	Music Appreciation	3.00	Fall 2026, Spring 2027, Summer 2027
MU106	Music Theory I	3.00	Fall 2026
MU107	Music Theory II	3.00	Spring 2027 Prereq: MU106 Music Theory I.
MU127	Introduction To Jazz/Jazz Rock	3.00	Fall 2026, Spring 2027
MU206	Music Theory III	3.00	Fall 2026 Prereq: MU107 Music Theory II.
MU207	Music Theory IV	3.00	Spring 2027 Prereq: MU206 Music Theory III.

PE105	Personal and Community Health	3.00	Fall 2026, Spring 2027, Summer 2027
PE122	Rhythms I	2.00	Fall 2026
PE123	Rhythms II	2.00	Spring 2027
PE126	Conditioning & Fitness Concepts I	1.00	Fall 2026, Spring 2027
PE127	Conditioning & Fitness Concepts II	1.00	Fall 2026, Spring 2027 Prereq: PE126 Conditioning & Fitness Concepts I.
PE173	Fitness for Life	1.00	Fall 2026, Spring 2027, Summer 2027
PL101	Introduction to Philosophy	3.00	Fall 2026, Spring 2027, Summer 2027
PL103	Logic and Critical Thinking	3.00	Fall 2026, Spring 2027
PL104	Ethics	3.00	Fall 2026, Spring 2027, Summer 2027
PL105	Death and Dying	3.00	Fall 2026, Spring 2027, Summer 2027
PS100	General Psychology	3.00	Fall 2026, Spring 2027, Summer 2027
PS101	Human Relations	3.00	Fall 2026, Spring 2027, Summer 2027
PS102	Human Growth and Development	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: PS100 General Psychology.
PS201	Psychology of Personality	3.00	Fall 2026, Spring 2027 Prereq: PS100 General Psychology with grade of C or higher.
PS202	Abnormal Psychology	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: PS100 General Psychology.
PY102	Weather and Climate	3.00	Spring 2027
PY103	Physical Geology	3.00	Fall 2026, Spring 2027, Summer 2027
PY104L	Physical Geology Lab	1.00	Fall 2026, Spring 2027, Summer 2027 Prereq: PY103 Physical Geology.
PY110	Physical Science	5.00	Fall 2026, Spring 2027
PY112	General Physics I	5.00	Fall 2026 Prereq: MA106 College Algebra or higher math.
PY113	General Physics II	5.00	Spring 2027 Prereq: PY112 Gen Physics I.
PY201	Engineering Physics I	5.00	Fall 2026 Prereq: MA111 Analytical Geometry & Calculus I, or MA112H Honors Analytical Geometry & Calculus.
PY202	Engineering Physics II	5.00	Spring 2027 Prereq: PY201 Eng Phys I with grade of C or better.
RE101	New Testament Literature	3.00	Fall 2026, Spring 2027
RE102	Old Testament Literature	3.00	Fall 2026
RE106	Introduction to World Religions	3.00	Spring 2027
SH101	Public Speaking	3.00	Fall 2026, Spring 2027, Summer 2027
SH103	Oral Interpretation	3.00	
SH122	Voice and Diction	3.00	Spring 2027
★ SH210	Interpersonal Communication	3.00	Fall 2026, Spring 2027, Summer 2027
SO100	Fundamentals of Sociology	3.00	Fall 2026, Spring 2027, Summer 2027
SO101	Marriage and Family	3.00	Fall 2026, Spring 2027, Summer 2027
SO103	Stress Management	1.00	Fall 2026, Spring 2027, Summer 2027
SO104	Assertiveness Training	2.00	Fall 2026, Spring 2027, Summer 2027
SO111	Cultural Anthropology	3.00	Fall 2026, Spring 2027, Summer 2027
SO113	Cultural Diversity	3.00	Fall 2026, Spring 2027
SO122	Introduction to Social Work	3.00	Fall 2026, Spring 2027
SO201	Social Problems	3.00	Spring 2027, Summer 2027 Prereq: SO100 Fundamentals of Sociology.
SP100	Workplace Spanish	2.00	
SP101	Elementary Spanish I	5.00	Fall 2026, Spring 2027, Summer 2027
SP102	Elementary Spanish II	5.00	Fall 2026, Spring 2027

			Prereq: SP101 Elementary Spanish I.
TH115	Theatre Appreciation	3.00	Fall 2026, Spring 2027
TH116	Acting I	3.00	Fall 2026
TH118	Stagecraft	3.00	Fall 2026
TH119	Stage Makeup	3.00	Fall 2026
TH121	Acting II	3.00	Fall 2026 Prereq: TH116 Acting I with a grade of C or better.
TH122	Voice and Diction	3.00	Spring 2027
TH123	Theatre Practicum I	1.00	Fall 2026, Spring 2027
TR100	Technical Math	3.00	Fall 2026, Spring 2027
TR120	Work Ethics	2.00	Fall 2026, Spring 2027
Machine Technology Communication Options		**3.00**	
BU109	Business Communications	3.00	Fall 2026, Spring 2027, Summer 2027
EN101	English Composition IA	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: HS GPA over 3.0, or Accu NG Writing Score 255+ & Accu NG Reading Score 255+, and ACT Reading Score of 18 or above, or ACT English Score of 18 or above.
EN107	Business English Grammar & Composition	3.00	Fall 2026, Spring 2027
★ EN108	Career and Technical Writing	3.00	Fall 2026, Spring 2027
Machine Technology Math Options		**3.00**	
BU108	Business Mathematics	3.00	Fall 2026, Spring 2027, Summer 2027
MA106	College Algebra	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: HS GPA over 3.25, or Accuplacer NextGen QuantReason, Alg,Stats Score 263 or Above, or ACT Math Score of 22 or Higher.
MA117	Contemporary Math	3.00	Fall 2026, Spring 2027, Summer 2027 Prereq: HS GPA over 3.0, or Accuplacer NG QuantReason, Alg, Stats Score 255 or Above, or ACT Math Score of 19 or Higher.
★ TR100	Technical Math	3.00	Fall 2026, Spring 2027
Machine Technology Social Science Options		**3.00**	
PS100	General Psychology	3.00	Fall 2026, Spring 2027, Summer 2027
PS100H	Honors General Psychology	3.00	
PS101	Human Relations	3.00	Fall 2026, Spring 2027, Summer 2027
TR120	Work Ethics	2.00	Fall 2026, Spring 2027
Machine Technology Technical Options		**18.00**	
AE100	AC/DC Circuits	4.00	Fall 2026, Spring 2027
AE105	Industrial Wiring	3.00	
AE150	Programmable Logic Controls (PLCs)	3.00	Fall 2026, Spring 2027 Prereq: AE100 AC/DC Circuits.
AE155	Electrical Maintenance	3.00	Fall 2026, Spring 2027 Prereq: AE100 AC/DC Circuits.
AE200	Variable Frequency Drives and Electric Motors	3.00	Fall 2026, Spring 2027 Prereq: ME110 Fundamentals of Motor Controls.
AE202	Actuator/Sensor Systems	3.00	Fall 2026, Spring 2027 Prereq: AE155 Electrical Maintenance.
AE205	Intermediate Programmable Logic Controllers	3.00	Fall 2026, Spring 2027 Prereq: AE150 Programmable Logic Controllers.
AE250	Distributed/Integrated Control Systems	3.00	Spring 2027 Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE252	Control Systems Development	3.00	Fall 2026, Spring 2027 Prereq: AE200 Variable Frequency Drives & Electric Motors, or AE205 Industrial PLCs.
AE255	Industrial Robotics	3.00	Spring 2027 Prereq: AE150 Programmable Logic Controllers.
BU100	Small Business Accounting	3.00	Fall 2026, Spring 2027, Summer 2027

BU105	Introduction to Business	3.00	Fall 2026, Spring 2027, Summer 2027
BU105H	Honors Introduction to Business	3.00	
BU107	Personal Finance	3.00	Fall 2026, Spring 2027, Summer 2027
BU107H	Honors Personal Finance	3.00	
BU127	Beginning Keyboarding	3.00	
BU141	Sales Management	3.00	Fall 2026, Spring 2027, Summer 2027
BU151	Introduction to Entrepreneurship	1.00	Fall 2026, Spring 2027
BU152	Marketing Applications for Entrepreneurs	1.00	Fall 2026, Spring 2027
BU153	Financial Management for Entrepreneurs	1.00	Fall 2026, Spring 2027
BU154	Business Management for Entrepreneurs	1.00	Fall 2026, Spring 2027
BU156	Developing the Business Plan	1.00	Fall 2026, Spring 2027
BU203	Management	3.00	Fall 2026, Spring 2027, Summer 2027
DR100	Computer Aided Drafting I	3.00	Fall 2026, Spring 2027, Summer 2027
DR101	Technical Drafting	3.00	Fall 2026, Spring 2027
DR102	Machine Drafting	5.00	Spring 2027 Prereq: DR100 Computer Aided Drafting I.
DR102H	Honors Machine Drafting	5.00	Prereq: DR100 Computer Aided Drafting I.
DR119	Parametric Modeling I: Autodesk Inventor	3.00	Fall 2026, Spring 2027
DR211	Computer Aided Drafting II	3.00	Fall 2026 Prereq: DR100 Computer Aided Drafting I.
DR212	Architectural Drafting I	3.00	Fall 2026, Spring 2027
DR213	Architectural Drafting II	3.00	Fall 2026, Spring 2027 Prereq: DR212 Architectural Drafting I.
DR215	Civil Drafting	3.00	Spring 2027 Prereq: DR100 Computer Aided Drafting I.
DR219	Parametric Modeling II: Autodesk Inventor	3.00	Fall 2026, Spring 2027 Prereq: DR119 Parametric Modeling I: Autodesk Inventor.
DR220	Computer Drafting Capstone	3.00	Fall 2026, Spring 2027 Prereq: DR119 Parametric Modeling I: Autodesk Inventor, or Departmental Consent, and DR212 Architectural Drafting I.
IS103	Microcomputer Literacy	2.00	
IS104	Microcomputer Applications	3.00	Fall 2026, Spring 2027, Summer 2027
ME106	Industrial Fluid Power	3.00	Fall 2026, Spring 2027
ME110	Fundamentals of Motor Controls	3.00	Fall 2026, Spring 2027 Prereq: AE100 AC/DC Circuits.
ME112	Heating System Fundamentals	3.00	Fall 2026, Spring 2027
ME114	Renewable Energy Technology	3.00	
ME116	Commercial Refrigeration	4.00	Spring 2027
ME117	Commercial Heating and Air Conditioning	4.00	Spring 2027 Prereq: ME115 HVAC Fundamentals, or ME116 Commercial Refrigeration.
ME118	Renewable Energy Technology Systems Analysis	4.00	Prereq: ME114 Renewable Energy Technology, and AE155 Electrical Maintenance, and ME115 HVAC Fundamentals.
ME119	Solar PV Fundamentals	3.00	
ME122	Solar PV Intermediate	3.00	Prereq: ME119 Solar PV Fundamentals.
ME124	Renewable Energy Technology Maintenance	4.00	Prereq: ME114 Renewable Energy Technology, and AE155 Electrical Maintenance, and ME115 HVAC Fundamentals.
ME125	Engineering Technology Internship	3.00	
ME129	Mechanical Maintenance Skills	3.00	Fall 2026, Spring 2027
ME131	EPA 608	1.00	Fall 2026
ME132	HVAC Load Calculations	1.00	Fall 2026
ME133	HVAC Duct Sizing	1.00	Fall 2026

ME134	HVAC Code Requirements	1.00	Fall 2026
ME136	Solar PV Advanced	3.00	Prereq: ME119 Solar PV Fundamentals, and ME141 Solar Battery Fundamentals, and ME122 Solar PV Intermediate.
ME140	Low Pressure Boilers	3.00	Spring 2027
ME141	Solar Battery Fundamentals	3.00	Prereq: ME119 Solar PV Fundamentals.
ME142	Solar Battery Intermediate	3.00	Prereq: ME119 Solar PV Fundamentals, and ME141 Solar Battery Fundamentals, and ME122 Solar PV Intermediate.
WE100	Basic Welding	3.00	Fall 2026, Spring 2027
WE102	Welding Blueprint Reading	3.00	Fall 2026, Spring 2027
WE104	Shielded Metal Arc Welding	3.00	Fall 2026, Spring 2027
WE105	Shielded Metal Arc Welding II	3.00	Fall 2026, Spring 2027 Prereq: WE104 SMAW w/Grade of C or Higher, or Departmental Consent.
WE106	Cutting Processes for Welding	2.00	Fall 2026
WE110	Gas Metal Arc Welding	3.00	Fall 2026, Spring 2027
WE111	Gas Metal Arc Welding II	3.00	Fall 2026, Spring 2027 Prereq: WE110 Gas Metal Arc Welding w/Grade of C or Higher.
WE112	Gas Tungsten Arc Welding	3.00	Fall 2026, Spring 2027
WE113	Gas Tungsten Arc Welding II	3.00	Spring 2027 Prereq: WE112 GTAW w/Grade of C or Higher.
WE115	Welding Layout and Calculations	2.00	Fall 2026, Spring 2027
WE116	Flux Cored Arc Welding	2.00	Spring 2027 Prereq: WE110 Gas Metal Arc Welding w/Grade of C or Higher, or Departmental Consent, and WE111 Gas Metal Arc Welding II w/Grade of C or Higher.
WE117	Welding Inspection and Qualification I	2.00	Fall 2026, Spring 2027
WE118	Industrial Robotic Welding	2.00	Spring 2027 Prereq: WE110 Gas Metal Arc Welding, or Departmental Consent.
WE128	Welding Metallurgy	2.00	Fall 2026, Spring 2027

Total Credits: **63.00**